

REMARKS

Applicants acknowledge receipt of an Office Action dated June 1, 2006. In this response Applicants have not amended or cancelled any claims. Following entry of the present amendment, claims 13-16 and 18-44 are pending in the application.

Reconsideration of the present application is respectfully requested in view of the foregoing amendments and the remarks which follow.

Rejections Under 35 U.S.C. § 103

In the Office Action, the PTO has set forth a number of rejections under 35 U.S.C. §103 which Applicants summarize below:

On page 2, claims 13, 14, 16, and 18-44 as being unpatentable over U.S. Patent 5,928,737 to Hammer et al. (hereinafter "Hammer") in view of U.S. Patent 5,936,014 to Voigt et al. (hereinafter "Voigt"). Reconsideration and withdrawal of this rejection are respectfully requested.

Hammer teaches a sausage casing comprising thermoplastic starch and, optionally, synthetic polymers, preferably soft and ductile polyamides, polyesters, polyolefins, ethylene/ethylacrylate/maleic anhydride copolymers or polyvinylpyrrolidone (col, 3, lines 48.52). Hammer does not disclose or contemplate any of the specific synthetic polymers set forth in present claim 13. These specific synthetic polymers render the casing resistant to boiling water, since they form a matrix which protects the starch from being dissolved by steam or hot water. This object is mentioned in the present specification, e.g., in the paragraph bridging pages 2 and 3. Casings consisting solely of thermoplastic starch or thermoplastic starch derivatives do not have the desired level of stability toward hot or boiling water. The necessary stability is only reached when the starch and/or starch derivative is admixed with the specific polymers recited in present claim 13, in particular with the polyetherurethanes, polyesteretherurethanes or polyalkylene carbonates. For example, in present Example 2 it is disclosed that the casing was resistant to simmering. Further, in present Example 3 it is mentioned that the casing was suitable for scalded-emulsion sausage (which is treated with steam or hot water).

With the casing as taught by Hammer the object of providing a hot-water resistant casing is not achieved, not even with the embodiment in which the casing contains the additional polymers as recited in col. 3, lines 48-55. The polyesters, polyolefins, polyamides, ethylene/ethylacrylate/maleic anhydride copolymers or PVP-copolymers do not form the above-mentioned matrix which imparts resistance to steam and hot or boiling water. In the casing as disclosed by Hammer, comprising the additional polymers, the starch is leached out by hot or boiling water and the casing finally disintegrates.

The PTO has cited and attempted to combine Voigt with Hammer, in order to demonstrate that the presently claimed invention would have been "obvious" to a person skilled in the art. There is absolutely no basis for such a combination, inasmuch as Voigt relates to a completely different kind of packaging material (preferably for tobacco products) that shares none of problems and/or properties of either the sausage casings of Hammer or the completely different sausage casings claimed in the present application. These problems and properties are part of the "invention as a whole" that must be considered under § 103.

Voigt teaches a biodegradable polymer blend comprising starch esters (but not thermoplastic starch, as employed by Hammer), polyalkylene glycols, compounded with aliphatic polycarbonates and plasticizers (col. 2, lines 55-65). Voigt's polycarbonates overlap to some extent with those in present claim 13. Voigt teaches shaped bodies, such as granules, molded parts, extrudates and films, produced with the biodegradable polymer blend (col. 1, lines 6-10). The films are intended for use as cigarette packaging (col. 2, lines 43-51; col. 6, lines 33/34). The packaging film is said to be *"useful for packaging any article that has requirements similar to the packaging of cigarettes"* (col. 7, lines 32-34).

A sausage obviously has requirements completely different from cigarettes. Cigarettes are essentially dry goods, whereas sausage meat contains animal fat and a relatively high amount of humidity. A person of ordinary skill in the art of sausage casings thus would not have considered the polycarbonates of Voigt as a suitable replacement means for the "synthetic polymers" which may be incorporated in the sausage casing disclosed by Hammer (see Hammer at col. 3, lines 48-53). Further, the starch derivatives are different in the two references, such that even a mechanical substitution theory fails. Moreover, the superficial and hindsight analysis of the PTO completely overlooks the objective and unexpected properties achieved by the present invention, namely, to overcome the problem of

starch dissolution in hot or boiling water. As is evident from the foregoing discussion, there is absolutely no teaching or suggestion in Voigt of how the polycarbonates disclosed therein would perform in a sausage casing! A *prima facie* case of obviousness requires both a basis for combining the references as well as some suggestion for achieving the improvement according to the claimed invention. The present rejection satisfies neither of these requirements. These arguments are applicable to all of the rejected claims.

On page 5, claim 15 as being unpatentable over Hammer in view of Voigt. The above comments are applicable to claim 15 as well.

On page 6, claims 13, 14, 16, and 42-44 as being unpatentable over Hammer in view of U.S. Patent 5,801,207 to Bastioli et al. (hereinafter "Bastioli"). Reconsideration of this rejection is also respectfully requested.

Bastioli teaches biodegradable foamed articles obtained by agglomeration of foamed particles. The foamed particles have a composition comprising a) a thermoplastic starch or a thermoplastic natural polymeric substance and b) a thermoplastic polymer (col. 1, lines 60-68). The natural polymeric substance includes chemically modified starch, such as starch acetate (col. 2, lines 39-44). The thermoplastic polymer may be selected from a variety of polymers (see col. 3, line 12, to col. 4, line 32). Mentioned are also "polyurethane/polyether, polyester/polyether and polyurethane/polyurea" (col. 4, lines 9-11). Bastioli does not disclose "polyesteretherurethanes" as defined in present claim 1.

The foamed particles have a density of 0.003 to 0.1 g/cm³ and show a closed cell structure (col. 2, lines 3/41). The foamed articles produced from the particles are capable of absorbing shocks and are intended particularly for protecting goods that could break during transportation (col. 2, lines 28-33). Non-cellular films produced with the thermoplastic composition are not disclosed or contemplated. The mechanical properties of foamed particles and of films are not comparable.

A skilled person thus would not have been motivated to use the specific polymers of Bastioli in the sausage casing of Hammer in an attempt to improve the mechanical properties of the latter, since the respective "mechanical properties" of each type of product are completely different. It is entirely clear that, absent the beforehand knowledge of the present invention, a person of ordinary skill in the food casing art would not have considered the Bastioli reference as being in any way relevant to food casings, and certainly not to the

problem of starch dissolution solved by the present invention. As noted above, the problem solved by a claimed invention is part of the "invention as a whole" that must be considered under the statutory test for patentability set forth in § 103. Thus, the combination of references is without proper basis and is therefore improper under § 103.

Bastioli is further completely silent about polyalkylenecarbonates as recited in present claim 13 and/or claim 42.

For reasons similar to those discussed above in the previous rejection, a food casing as presently claimed is clearly not rendered obvious by a combination of Hammer and Bastioli, because there is no proper basis for combining those references. Withdrawal of the stated rejection is therefore respectfully requested.

On page 8, claim 15 as being unpatentable over Hammer in view of Bastioli. For reasons set forth above, this rejection is likewise not proper and should be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully submit that all of the pending claims are now in condition for allowance. An early notice to this effect is earnestly solicited. If there are any questions regarding the application, the Examiner is invited to contact the undersigned at the number below.

Respectfully submitted,

Date October 2, 2006

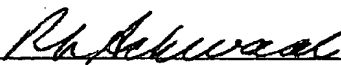
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The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.